REMARKS

Claims 1-4, 7-15 and 18-22 are pending in the present application. Applicants respectfully request reconsideration of the application in view of the above amendments and remarks made herein.

I.   Rejections Under 35 U.S.C. § 103

Claims 1-2, 4, 10, 12-13, 15 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *McCanne* (US 2003/0088696 A1) in view of *Haas et al.* (US 7,035,937 B2), for the reasons set forth on pages 3-8 of the Office Action.

Claims 1 and 12 are the independent claims.

Claims 1 and 12 claim, *inter alia*, "defining a target bandwidth less than a maximum link bandwidth of edges of the overlay spanning tree given a fully connected overlay distribution graph."

McCanne teaches bandwidth constraints specified by external policies. *McCanne* does not teach or suggest defining a target bandwidth less than a maximum link bandwidth of edges of the overlay spanning tree given a fully connected overlay distribution graph, as essentially claimed in Claims 1 and 12. Nowhere does *McCanne* discuss defining a target bandwidth; *McCanne* simply teaches general bandwidth constraints (see paragraph 33, lines 13-17). Furthermore, the general bandwidth constraints of *McCanne* are not less than a maximum bandwidth; there is no teaching or suggestion of bandwidth available above the general bandwidth constraints, much less increasing or decreasing the general bandwidth constraints, essentially as claimed in Claims 1 and 12. Therefore, *McCanne* does not teach or suggest every limitation of Claims 1 and 12.

Haas teaches a routing protocol for an ad hoc network that employs alternate tree computation algorithms that continually compute backup trees that can be employed to replace failed trees. *Haas* does not teach or suggest "defining a target bandwidth less than a maximum link bandwidth of edges of the overlay spanning tree given a fully connected overlay distribution graph," as claimed in Claims 1 and 12. *Haas* is silent on implementing bandwidth requirements or constraints of any kind. Therefore, *Haas* fails to cure the deficiencies of *McCanne*.

The combination of *McCanne* and *Haas* teaches bandwidth constraints specified by external policies and a routing protocol for an ad hoc network that employs alternate tree computation algorithms that continually compute backup trees that can be employed to replace failed trees. The combination does not teach or suggest "defining a target bandwidth less than a maximum link bandwidth of edges of the overlay spanning tree given a fully connected overlay distribution graph," as claimed in Claims 1 and 12. Accordingly, the combination does not teach or suggest every limitation of Claims 1 and 12.

Claims 1 and 12 further claim, *inter alia*, "constructing a reduced overlay distribution graph by iteratively removing an edge from a current overlay distribution graph, beginning with the fully connected overlay distribution graph, the edge having a bandwidth less than or equal to the target bandwidth."

The Examiner point to paragraph 65, lines 1-13 of *McCanne* as teaching constructing a reduced overlay distribution graph by removing an edge from the fully connected overlay distribution graph having a bandwidth less than or equal to the target bandwidth. Applicants respectfully disagree. Respectfully, *McCanne* teaches reducing the path lengths between a leaf

node and an external network to improve routing performance and using other paths as backups in case designated links go down and (see paragraph 65, lines 3-13). The reduction of path lengths of *McCanne* merely refers to choosing a path having fewer links among a plurality of available paths, while the remaining paths are used for backup and peering. Nowhere does *McCanne* teach or suggest <u>removing</u> an edge having a bandwidth less than or equal to a target bandwidth; all links forming the paths of *McCanne* are considered in routing decisions. Using selecting a path for its path length and using other paths as backups is clearly not analogous to removing edges from an overlay distribution graph with a bandwidth less than a target bandwidth. Therefore, *McCanne* fails to teach or suggest every limitation of Claims 1 and 12.

Haas teaches a routing protocol for an ad hoc network that employs alternate tree computation algorithms that continually compute backup trees that can be employed to replace failed trees. *Haas* does not teach or suggest iteratively removing an edge from a current overlay distribution graph, beginning with the fully connected overlay distribution graph, the edge having a bandwidth less than or equal to the target bandwidth, as essentially claimed in Claims 1 and 12. Nowhere does *Haas* discuss a target bandwidth, let alone iteratively removing edges having a bandwidth less than or equal to a target bandwidth. Therefore, *Haas* fails to cure the deficiencies of *McCanne*.

The combination of *McCanne* and *Haas* teaches choosing a single edge for use with an LVIF when multiple edges are incident to the LVIF and using the remaining edges for backup and peering, and a routing protocol for an ad hoc network that employs alternate tree computation algorithms that continually compute backup trees that can be employed to replace failed trees. The combination does not teach or suggest "constructing a reduced overlay distribution graph by

iteratively removing an edge from a current overlay distribution graph, beginning with the fully

connected overlay distribution graph, the edge having a bandwidth less than or equal to the target

bandwidth," as claimed in Claims 1 and 12. Accordingly, the combination does not teach or

suggest every limitation of Claims 1 and 12.

Therefore, for at least the above reasons, Claims 1 and 12 are believed to be patentable

and non-obvious over the combination of *McCanne* and *Haas*. Applicants respectfully submit

that inasmuch as Claims 2, 4, 10, 13, 15 and 21 are dependent on Claims 1 and 12, the dependent

claims are allowable for at least the reasons given for Claims 1 and 12. Reconsideration of the

instant rejection is respectfully requested.

Referring to Claims 3, 11, 14 and 22; Claims 3, 11, 14 and 22 stand rejected under 35

U.S.C. § 103(a) as being unpatentable over *McCanne* in view of *Haas*, in further view of *Silton et

al.* (US 6,327,252) for the reasons set forth on pages 3-10 of the Office Action.

Claims 3, 11, 14 and 22 depend from Claims 1 and 12, and are believed to be allowable

for at least the reasons given for Claims 1 and 12. Reconsideration of the instant rejection is

respectfully requested.

Referring to Claims 7-9, 18-20 and 23; Claims 7-9, 18-20 and 23 stand rejected under 35

U.S.C. § 103(a) as being unpatentable over *McCanne* in view of *Haas*, in further view of *Hsu* (US

6,363,319 B1), in further view of *Grover et al.* (US 2002/0187770 A1), for the reasons set forth

on pages 3-16 of the Office Action.

Claims 7-9 and 18-20 depend from Claims 1 and 12, and are believed to be allowable for

at least the reasons given for Claims 1 and 12. Claim 23 has been canceled. Reconsideration of

the instant rejection is respectfully requested.

CONCLUSION

For the forgoing reasons, the application, including Claims 1-4, 7-15 and 18-22, is

believed to be in condition for allowance. Early and favorable reconsideration of the case is

respectfully requested.

Respectfully submitted,

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